## (12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

### (19) World Intellectual Property **Organization**

International Bureau



# I CORRE DINATOR IL GRAND ANCHE ESINI ESINI CORT IL RIVER ESINE REGIO GIUTO GUITO MON SIGNIA REGION DELL'ARCERT

#### (43) International Publication Date 29 July 2004 (29.07.2004)

#### PCT

#### (10) International Publication Number WO 2004/062551 A2

(51) International Patent Classification7: (74) Agents: BRANTS, Johan, Philippe, Emile et al.; De A61K Clercq, Brants & Partners, E. Gevaertdreef 10a, B-9830 (21) International Application Number: Sint-Martens-Latem (BE). PCT/BE2004/000002 (22) International Filing Date: 9 January 2004 (09.01.2004) (81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, (25) Filing Language: AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, English CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, (26) Publication Language: English GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, (30) Priority Data: MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, 03447005.4 10 January 2003 (10.01.2003) EP PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, PCT/EP03/06581 23 June 2003 (23.06.2003) EP TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, PCT/EP03/07313 8 July 2003 (08.07.2003) EP ZW. PCT/BE03/00193 7 November 2003 (07.11.2003) BE PCT/BE03/00189 7 November 2003 (07.11.2003) BE PCT/BE03/00190

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

of inventorship (Rule 4.17(iv)) for US only

#### Published:

without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

7 November 2003 (07.11.2003) BE PCT/BE03/00192 7 November 2003 (07.11.2003) BE PCT/BE03/00194 7 November 2003 (07.11.2003) BE PCT/BE03/00206 1 December 2003 (01.12.2003) BE PCT/BE03/00191 2 December 2003 (02.12.2003) BE

- (71) Applicant (for all designated States except US): ABLYNX N.V. [BE/BE]; Technologiepark 4, B-9052 Zwijnaarde (BE).
- (72) Inventor; and
- (75) Inventor/Applicant (for US only): SILENCE, Karen [BE/BE]; Jean Tombeurstraat 21, B-3090 Overijse (BE).

(54) Title: THERAPEUTIC POLYPEPTIDES, HOMOLOGUES THEREOF, FRAGMENTS THEREOF AND FOR USE IN MOD-**ULATING PLATELET-MEDIATED AGGREGATION** 

(57) Abstract: The present invention relates to polypeptides comprising at least one single domain antibody directed against vWF, vWF A1 domain, A1 domain of activated vWF, vWF A3 domain, gpIb and/or collagen, homologues of said polypeptides, and/or functional portions of said polypeptides, for the treatment for conditions which require a modulation of platelet-mediated aggregation and which overcomes the problems of the prior art. A further aspect of the invention is methods of production of said polypeptides, methods to coat devices with such polypeptides used in medical procedures (e.g. PCTA, stenting), methods and kits for screening for agents that modulate platelet-mediated aggregation and kits for the diagnosis of diseases related to platelet-mediated aggregation.